SIZE “21.21” ENCLOSURES

HNM VERSION

Size “21.21” metallic housings
(bulkhead and surface mounting)
and hoods with CLASS lever,
suitable for up to 5 000 mating cycles

Find out more
www.ilme.com

TECHNICAL FEATURES

Housings (bulkhead-mounting or surface mounting) size "21.21" equipped with **CLASS single locking lever,** made by stainless-steel with sintered stainless-steel rolls with special **anti-friction treatment**

Q *to be mated to* standard **hoods** "size 21.21".

This **HNM** series of connector housings has been developed to be used in combination with the **HNM** series of size "21.21" multipole connector inserts, equipped with the relevant **HNM** series of removable crimp contacts, to provide the same reliable protection of the standard series but for a consistently extended, **high number of matings.**

The CLASS locking lever has been chosen and treated so as to reduce wear due to friction at minimum.

Even mated on standard hoods, it is able to provide extremely reduced wear on the corresponding locking pegs, producing virtually no friction by the application of special lubrication on the hinged rolls.

The counterpart hoods are therefore standard metallic types, with fused pegs.

Currently (see next pages) the **suitable HNM inserts size "21.21"** for these new HNM housings are:

Q **CQF /M 21** inserts
with **5 A HNM** crimp contacts series **RI**

Q **CDF /M 08** inserts
with **10 A HNM** crimp contacts series **RD**

Q **New RQF /M 05** inserts,
special **HNM** screw-type PE terminal,
with **16 A HNM** crimp contacts series **RC**

Q **CQ4F /M 03**
with **40 A HNM** crimp contacts series **RX**

NOTE – Series CKSH (SQUICH®), as well as all MIXO BUS multi-axial and coaxial inserts for use within the size "21.21" CX 1/2 BDF /BDM adapter are not foreseen in HNM version. For requests of other size "21.21" connector inserts in HNM version (e.g.: RK, RQ 12, RQ 07), please contact ILME Commercial Offices.

When the number of 500 mating cycles guaranteed life of standard connector hoods and housings is insufficient to provide a reasonably long lifespan in those connector applications that by inherent function are foreseen to be subject to very frequent connections and disconnections, it is necessary to opt for a solution able to increase that guaranteed lifetime.

Q The **HNM size "21.21"** series of connector enclosures achieves this goal, extending the guaranteed number of matings **up to 5 000.**

▶ **Original design, ILME exclusive in the market for rectangular connectors**

Special lubrication of the lever rolls

▶ **Special gold plating and lubrication to reduce the wear of the contacts during frequently repeated mating/unmating operations**

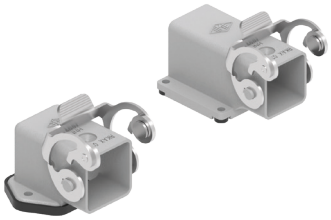
RKAX 03 HNM (High Number of Matings)

inserts		page:
CQ	21 poles	**82**
CD	8 poles	**83**
RQ	5 poles + ⏚	**84**
CQ4 03	3 poles + ⏚	**85**

bulkhead mounting housings straigh, stainless steel lever

FROM JUNE 2022

bulkhead mounting housings angled, stainless steel lever



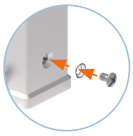
FROM JUNE 2022

description	part No.	part No.
with stainless steel lever	**RKAX 03 I**	
without cable entry [1] without cable entry, fixing by 4 screws		**RKAX 03 IA** **RKAX 03 IA4**
gasket and screw kit for IP66 [2]	**CKR 65**	**CKR 65**
gasket and screw kit for IP66 [2] specific for CD 07/08 inserts	**CKR 65 D**	**CKR 65 D**

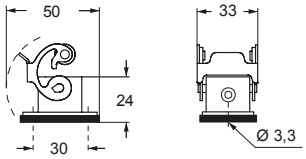
[1] Not suitable for CQ4 series inserts

[2] To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

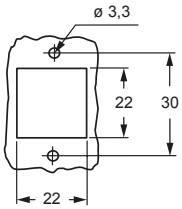
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



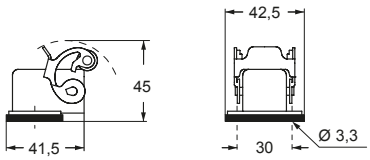
RKAX 03 I



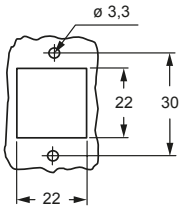
panel cut-out for enclosures



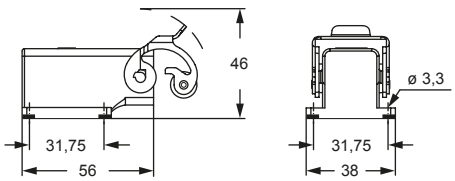
RKAX 03 IA



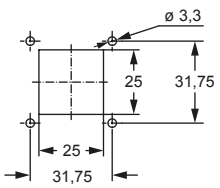
panel cut-out for enclosures



RKAX 03 IA4



panel cut-out for enclosures



cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending

EN 60529 IP44 IEC 60529 IP66 with CKR 65 (D) [2]

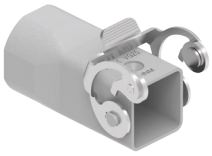
RKAX VG HNM (High Number of Matings)

inserts		page:
CQ	21 poles	**82**
CD	8 poles	**83**
RQ	5 poles + ⏚	**84**
CQ4 03	3 poles + ⏚	**85**

hoods
stainless steel lever

FROM JUNE 2022

hoods
stainless steel lever



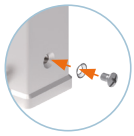
FROM JUNE 2022

description	part No. (entry M20)	part No. (entry M25)
top entry [1]	**RKAX VG20**	
top entry		**RKAX VG25**
gasket and screw kit for IP66 [2]	**CKR 65**	**CKR 65**
gasket and screw kit for IP66 [2] specific for CD 08 inserts	**CKR 65 D**	**CKR 65 D**

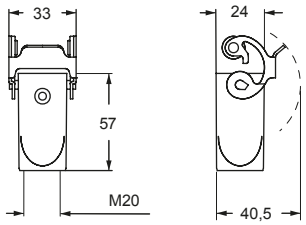
[1] Not suitable for CQ4 series inserts

[2] To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

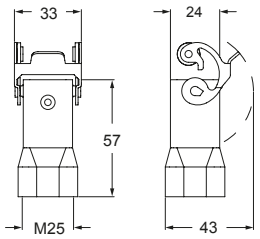
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



RKAX VG20



RKAX VG25



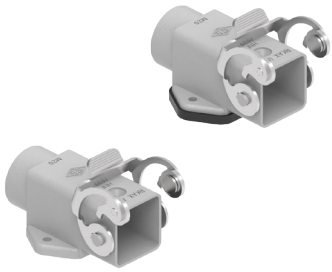
cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending

EN 60529 IP44 IEC 60529 IP66 with CKR 65 (D) [2]

RKAX AP – IAP HNM (High Number of Matings)

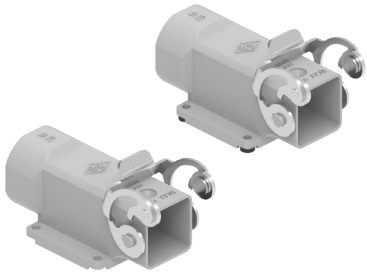
inserts		page:
CQ	21 poles	**82**
CD	8 poles	**83**
RQ	5 poles + ⏚	**84**
CQ4 03	3 poles + ⏚	**85**

bulkhead mounting housings straight and angled, stainless steel lever



FROM JUNE 2022

angled surface mounting housings stainless steel lever



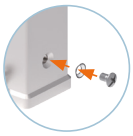
FROM JUNE 2022

description	part No. (entry M20)	part No. (entry M25)
with cable entry [1] with cable entry, bulkhead hole closed, without gasket [1]	**RKAX IAP20** **RKAX AP20**	
with cable entry, fixing by 4 screws with cable entry, fixing by 4 screws, bulkhead hole closed, without gasket		**RKAX IAP25** **RKAX AP25**
gasket and screw kit for IP66 [2]	**CKR 65**	**CKR 65**
gasket and screw kit for IP66 [2] specific for CD 07/08 inserts	**CKR 65 D**	**CKR 65 D**

[1] Not suitable for CQ4 series inserts

[2] To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

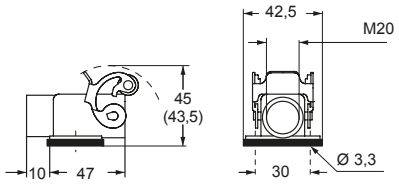
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending

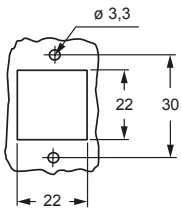
IP44 IP66 with CKR 65 (D) [2]

RKAX IAP20 (RKAX AP20*)

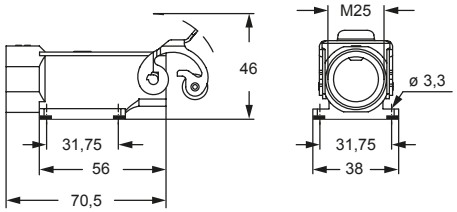


***AP...** without gasket

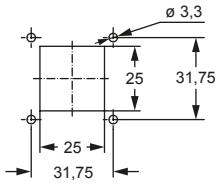
panel cut-out for enclosures



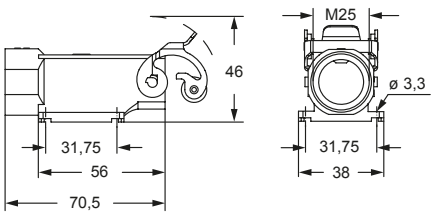
RKAX IAP25



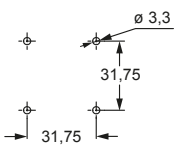
panel cut-out for enclosures



RKAX AP25



panel cut-out for enclosures



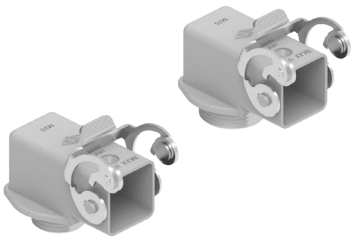
RKAX IF – IAF HNM (High Number of Matings)

inserts		page:
CQ	21 poles	**82**
CD	8 poles	**83**
RQ	5 poles + ⏚	**84**
CQ4 03	3 poles + ⏚	**85**

bulkhead mounting housings stainless steel lever

FROM JUNE 2022

angled bulkhead mounting housings stainless steel lever

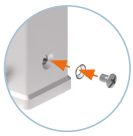


FROM JUNE 2022

description	part No.	entry M	part No.	entry M
with O-ring gasket [1] [•] with flange gasket [1]	**RKAX IF** **RKAX IFC**	32 32		
with O-ring gasket [1] [2] [•] with O-ring gasket [1] [2] [•]			**RKAX IAF20** **RKAX IAF25**	20 25
gasket and screw kit for IP66 [2]	**CKR 65**		**CKR 65**	
gasket and screw kit for IP66 [2] specific for CD 07/08 inserts	**CKR 65 D**		**CKR 65 D**	

[1] To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page



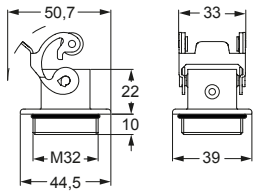
[2] Not suitable for CQ4 series inserts

[•] Locknut supplied on request, see Cable glands catalogue (article AS M32N metallic).

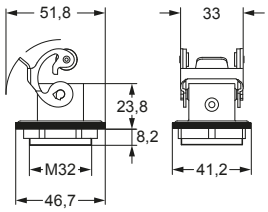
cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending

IP66 with CKR 65 (D) [2]

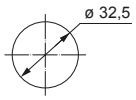
RKAX IF



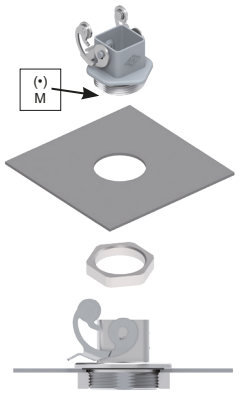
RKAX IFC



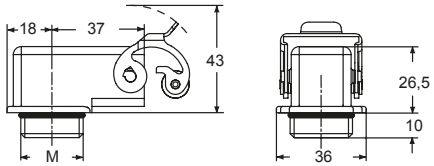
panel cut-out for enclosures



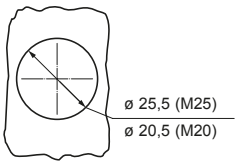
USE OF THE LOCKNUT



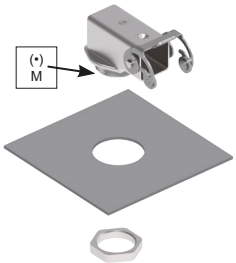
MKAX IAF



panel cut-out



USE OF THE LOCKNUT



HNM series

In and out

Housings (bulkhead-mount or surface mount) equipped with **V-TYPE single locking lever** with special **anti-friction treatment**

to be mated to

Hoods with **riveted anti-friction pegs**, that facilitate the frequent opening and closing.

This **HNM** series of connector enclosures has been developed to be used in combination with the **HNM** series of multipole connector inserts equipped with relevant **HNM** series of removable crimp contacts, to provide the same reliable protection of the standard series but for a consistently extended, **high number of matings.**

When the number of 500 mating cycles guaranteed life of standard connector hoods and housings is insufficient to provide a reasonably long life span in those connector applications that by function are foreseen to be subject to very frequent connections and disconnections, it is necessary to opt for a solution able to increase that guaranteed lifetime.

The **HNM** series of connector enclosures achieves this goal, extending the guaranteed number of matings up to 10.000.
The locking means, comprising both the locking lever and locking pegs are chosen and treated so as to reduce wear due to friction at minimum, thanks to the use of the clever proprietary design of the **V-TYPE locking lever**, that already in standard enclosures is able to provide extremely reduced wear on the corresponding locking pegs, producing a very limited friction, furtherly reduced by the application of a special anti-friction lubrication treatment.

The counterpart hoods for locking on the long side are already provided by riveted anti-friction rolling pegs, as well furtherly improved by the special anti-friction lubrication treatment.

RV - RVA HNM (High Number of Matings)

inserts		page:
RDD	24 poles + ⏚	**210**
RCE	6 poles + ⏚	**214**
MIXO HNM	2 modules	**321 - 333**

bulkhead mounting housings with single lever in stainless steel

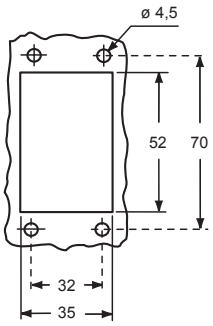
10.000 MATINGS WITH HNM INSERTS

surface mounting housings with single lever in stainless steel

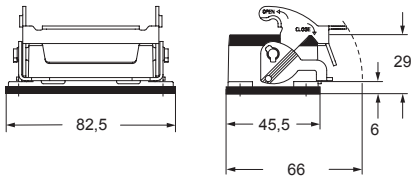
10.000 MATINGS WITH HNM INSERTS

description	part No.	part No.	entry M
with lever and gasket, size “44.27”	**RVI 06 L**		
with lever, size “44.27”		**RVP 06 L20**	20
with lever, size “44.27”		**RVP 06 L220**	20 x 2
with lever, high construction, size “44.27”		**RVAP 06 L32**	32
with lever, high construction, size “44.27”		**RVAP 06 L232**	32 x 2

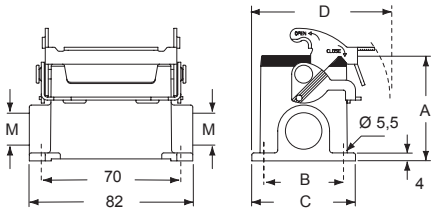
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A	B	C	D
RVP 06 L	53	40	52	70
RVAP 06 L	74	45	57	72,5

Type 4/4X/12

IP65 insulating cable gland or fittings without gasket

IP66 IP67 IP69 cable gland with O-Ring gasket

RH - RF HNM (High Number of Matings)

inserts		page:
RDD	24 poles + ⏚	**210**
RCE	6 poles + ⏚	**214**
MIXO HNM	2 modules	**321 - 333**

hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

hoods with 2 pegs

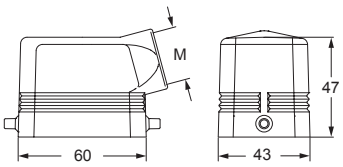
10.000 MATINGS WITH HNM INSERTS

description	part No.	entry M	part No.	entry M
with pegs, side entry	**RHO 06 L25**	25		
with pegs, top entry [1]	**RHV 06 L25**	25		
with pegs, side entry, high construction, without adapter [2]			**RFO 06 L32**	32
with pegs, top entry, high construction, without adapter [2]			**RFV 06 L32**	32

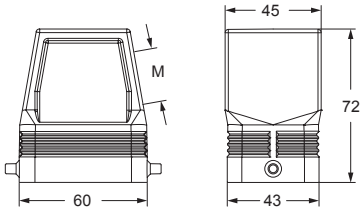
[1] cannot be used with MIXO series.

[2] enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

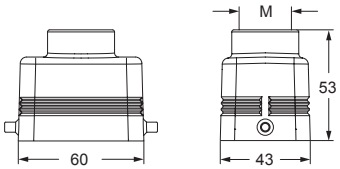
RHO L



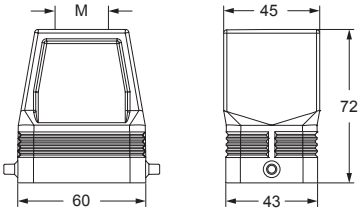
RFO L



RHV L



RFV L



Type 4/4X/12

insulating cable gland or fittings without gasket

cable gland with O-Ring gasket

RV - RVA HNM (High Number of Matings)

inserts		page:
RDD	42 poles + ⏚	**211**
RCE	10 poles + ⏚	**215**
MIXO HNM	3 modules	**321 - 333**

bulkhead mounting housings with single lever in stainless steel

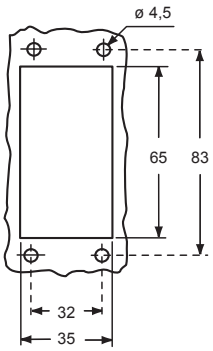
10.000 MATINGS WITH HNM INSERTS

surface mounting housings with single lever in stainless steel

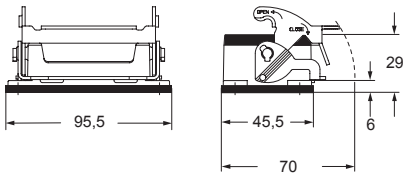
10.000 MATINGS WITH HNM INSERTS

description	part No.	part No.	entry M
with lever, size “57.27”	**RVI 10 L**		
with lever, size “57.27”		**RVP 10 L20**	20
with lever, size “57.27”		**RVP 10 L220**	20 x 2
with lever, high construction, size “57.27”		**RVAP 10 L32**	32
with lever, high construction, size “57.27”		**RVAP 10 L232**	32 x 2

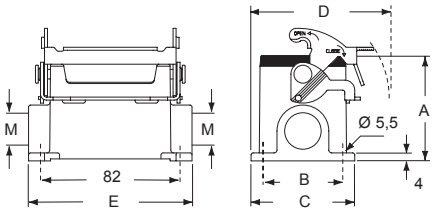
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A	B	C	D	E
RVP 10 L	57	40	52	73	93,5
RVAP 10 L	74	45	57	75,5	94

HNM

c UL us Type 4/4X/12

EN 60529 IP65 IEC 60529 insulating cable gland or fittings without gasket

EN 60529 IP66 IP67 IP69 IEC 60529 cable gland with O-Ring gasket

RH - RF HNM (High Number of Matings)

inserts		page:
RDD	42 poles + ⏚	**211**
RCE	10 poles + ⏚	**215**
MIXO HNM	3 modules	**321 - 333**

hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

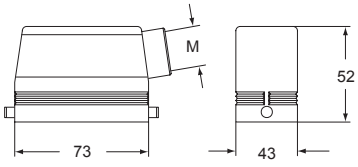
hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

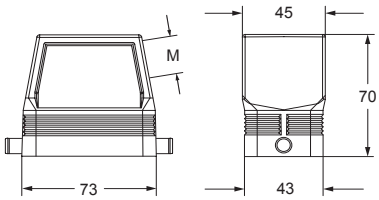
description	part No.	entry M	part No.	entry M
with pegs, side entry	**RHO 10 L25**	25		
with pegs, top entry	**RHV 10 L25**	25		
with pegs, side entry, high construction, without adapter [1]			**RFO 10 L32**	32
with pegs, top entry, high construction, without adapter [1]			**RFV 10 L32**	32

[1] enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

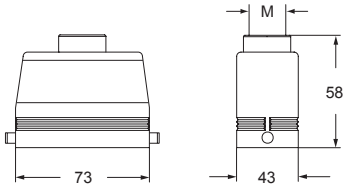
RHO L



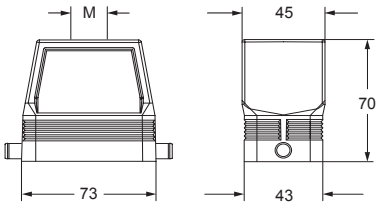
RFO L



RHV L



RFV L



Type 4/4X/12

IP65 insulating cable gland or fittings without gasket

IP66 IP69 cable gland with O-Ring gasket

RV - RVA HNM (High Number of Matings)

inserts		page:
RD	40 poles + ⏚	**208**
RDD	72 poles + ⏚	**212**
RCE	16 poles + ⏚	**216**
RQEE	40 poles + ⏚	**218**
RX	12 poles + 2 poles + ⏚	**221**
MIXO HNM	4 modules	**321 - 333**

bulkhead mounting housings with single lever in stainless steel

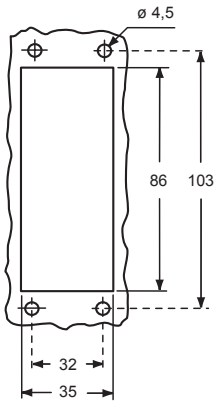
10.000 MATINGS WITH HNM INSERTS

surface mounting housings with single lever in stainless steel

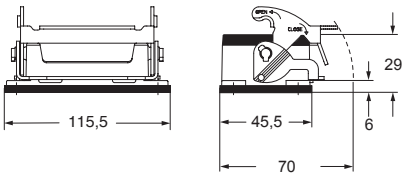
10.000 MATINGS WITH HNM INSERTS

description	part No.	part No.	entry M
with lever, size “77.27”	**RVI 16 L**		
with lever, size “77.27”		**RVP 16 L25**	25
with lever, size “77.27”		**RVP 16 L225**	25 x 2
with lever, high construction, size “77.27”		**RVAP 16 L32**	32
with lever, high construction, size “77.27”		**RVAP 16 L232**	32 x 2

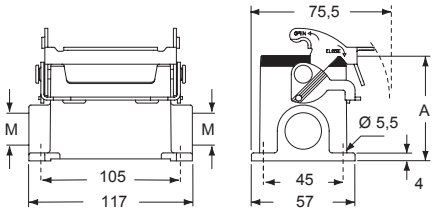
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	**A**
RVP 16 L	63
RVAP 16 L	81

Type 4/4X/12

insulating cable gland or fittings without gasket

cable gland with O-Ring gasket

RH - RF HNM (High Number of Matings)

inserts		page:
RD	40 poles + ⏚	**208**
RDD	72 poles + ⏚	**212**
RCE	16 poles + ⏚	**216**
RQEE	40 poles + ⏚	**218**
RX	12 poles + 2 poles + ⏚	**221**
MIXO HNM	4 modules	**321 - 333**

hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

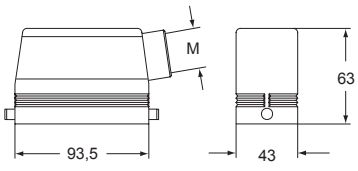
hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

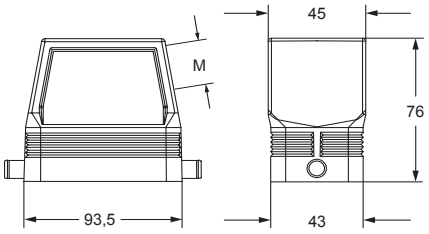
description	part No.	entry M	part No.	entry M
with pegs, side entry	**RHO 16 L32**	32		
with pegs, top entry	**RHV 16 L32**	32		
with pegs, side entry, high construction, without adapter [1]			**RFO 16 L32**	32
with pegs, top entry, high construction, without adapter [1]			**RFV 16 L32**	32

[1] enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

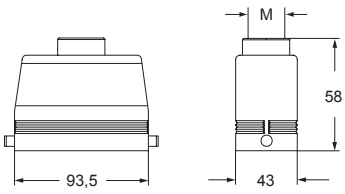
RHO L



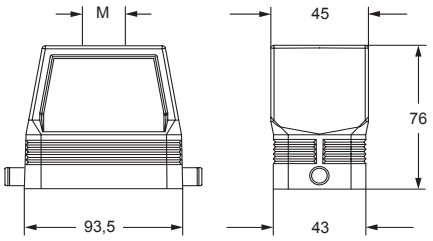
RFO L



RHV L



RFV L



Type 4/4X/12

insulating cable gland or fittings without gasket

cable gland with O-Ring gasket

HNM

RV - RVA HNM (High Number of Matings)

inserts		page:
RD	64 poles + ⏚	**209**
RDD	108 poles + ⏚	**213**
RCE	24 poles + ⏚	**217**
RQEE	64 poles + ⏚	**219**
MIXO HNM	6 modules	**321 - 333**

bulkhead mounting housings with single lever in stainless steel

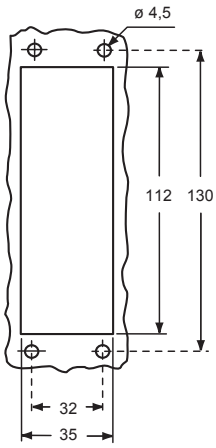
10.000 MATINGS WITH HNM INSERTS

surface mounting housings with single lever in stainless steel

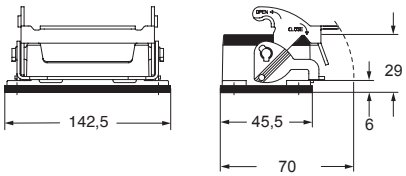
10.000 MATINGS WITH HNM INSERTS

description	part No.	part No.	entry M
with lever, size “104.27”	**RVI 24 L**		
with lever, size “104.27”		**RVP 24 L25**	25
with lever, size “104.27”		**RVP 24 L225**	25 x 2
with lever, high construction, size “104.27”		**RVAP 24 L32**	32
with lever, high construction, size “104.27”		**RVAP 24 L232**	32 x 2

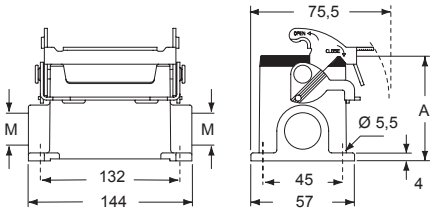
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	**A**
RVP 24 L	63
RVAP 24 L	81

Type 4/4X/12

insulating cable gland or fittings without gasket

cable gland with O-Ring gasket

RH - RF HNM (High Number of Matings)

inserts		page:
RD	64 poles + ⏚	**209**
RDD	108 poles + ⏚	**213**
RCE	24 poles + ⏚	**217**
RQEE	64 poles + ⏚	**219**
MIXO HNM	6 modules	**321 - 333**

hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

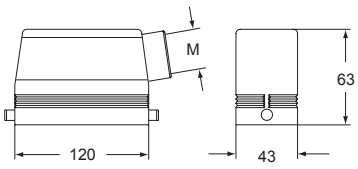
hoods with 2 pegs

10.000 MATINGS WITH HNM INSERTS

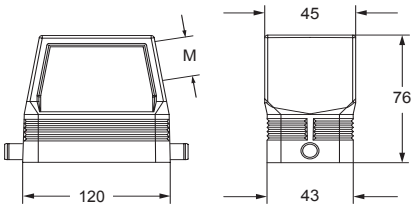
description	part No.	entry M	part No.	entry M
with pegs, side entry	**RHO 24 L32**	32		
with pegs, top entry	**RHV 24 L32**	32		
with pegs, side entry, high construction, without adapter [1]			**RFO 24 L40**	40
with pegs, top entry, high construction, without adapter [1]			**RFV 24 L40**	40

[1] enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

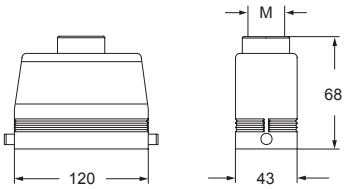
RHO L



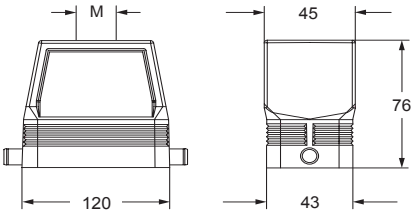
RFO L



RHV L



RFV L



Type 4/4X/12

IP65 insulating cable gland or fittings without gasket

IP66 IP69 cable gland with O-Ring gasket

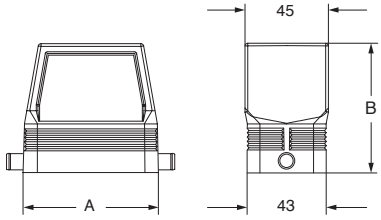
RAC dummy hoods HNM (High Number of Matings)

enclosures	page:
size “44.27”	592 - 593
size “57.27”	594 - 595
size “77.27”	596 - 597
size “104.27”	598 - 599

hoods without entry, to be pierced

10.000 MATINGS WITH HNM INSERTS

description	part No. with 2 pegs
with pegs for levers	
used with enclosures size “44.27”	**RAC 06 L**
used with enclosures size “57.27”	**RAC 10 L**
used with enclosures size “77.27”	**RAC 16 L**
used with enclosures size “104.27”	**RAC 24 L**



part No.	A	B
RAC 06 L	60	72
RAC 10 L	73	70
RAC 16 L	93,5	76
RAC 24 L	120	76

HNM

Type 4/4X/12

IP65 insulating cable gland or fittings without gasket

IP66 IP69 cable gland with O-Ring gasket

CAUTION: As the frames are floating, **the PE earthing connection of the metal surfaces on which they are mounted** (mounting bases) **must be performed separately** and cannot be done by connecting the PE earthing contact to the corresponding connector inserts.

NOTE: The supply includes 1 frame and 4 shoulder screws with cylindrical head and notch to fix the frame in place.

For use with MIXO inserts CX 04 X, please contact ILME S.p.A.

self-centring floating frame

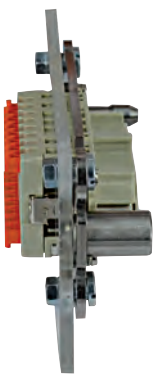
10.000 MATINGS WITH HNM INSERTS

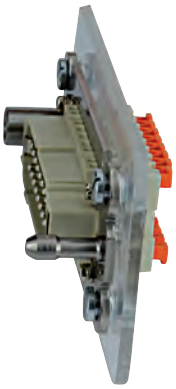
description	part No.
in stainless steel, to be mounted on:	
inserts size “44.27” 1) and MIXO frames for 2 inserts	**CR 06 DF**
inserts size “57.27” 1) and MIXO frames for 3 inserts	**CR 10 DF**
inserts size “77.27” 1) and MIXO frames for 4 inserts	**CR 16 DF**
inserts size “104.27” 1) and MIXO frames for 6 inserts	**CR 24 DF**

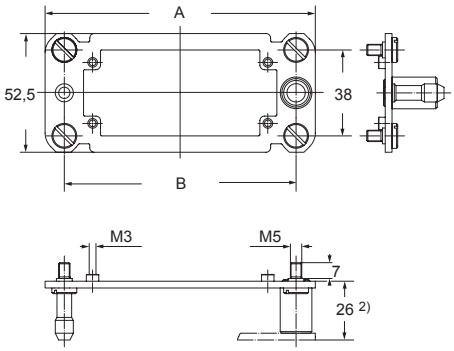
1) Except CT, CTS and CTSE

Technical specifications
- materials:
  - floating frame, inserts: stainless steel
  - fixing screws: zinc-plated steel
- mechanical endurance: up to 10.000 cycles with HNM inserts
- compensation range:
  - x axis: ± 1,5 mm
  - y axis: ± 1,5 mm

Characteristics
- Suitable, depending on size, for all standard and MIXO connector inserts and frames, except series CT, CTS and CTSE.
- Designed to be used in the transportation, printing and power electronic industries (for example boxes for rack cabinets) and in all industrial applications that require, during assembly or maintenance, the connection of connectors without possibility of controlling the alignment.
- Enables the **self-centring coupling of two corresponding** connectors without the use of enclosures; they freely move on their base plate (± 1,5 mm on both axes) ensuring the **alignment of the coupling**.

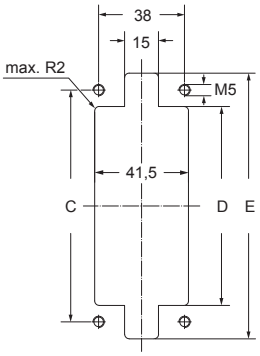






2) distance for electric and fibre optic contacts: max 27 mm;
distance for pneumatic contacts: max 26,5 mm.

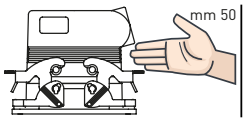
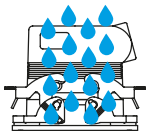
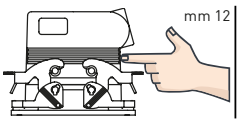
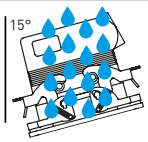
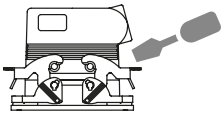
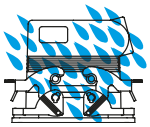
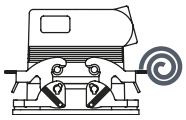
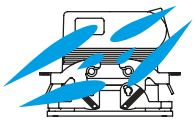
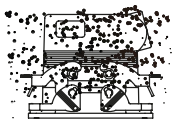
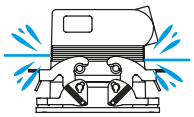
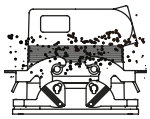
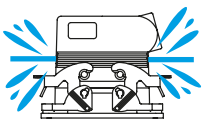
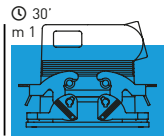
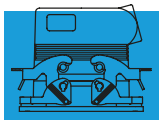
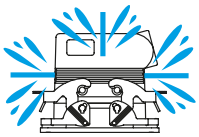
panel cut-out



part No.	A	B	C	D	E
CR 06 DF	86	69	69	54,5	84
CR 10 DF	99	82	82	67,5	97
CR 16 DF	119,5	102,5	102,5	88	117,5
CR 24 DF	146	129	129	114,5	144

THE DEGREE OF PROTECTION

The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water or other fluids such as cleansing and cooling agents, oils, etc. The degree of protection the housing offers is explained in the IEC 60529, DIN EN 60529, standards that categorize enclosures according to foreign body and water protection.
The following table shows the **IP (Ingress Protection) Ratings Guide**.

FIRST Index figure	Degree of protection SOLIDS		SECOND Index figure	Degree of protection WATER	
0		No protection	0		No protection
1		Protected against access to hazardous parts with the back of a hand and protected against solid foreign objects of Ø 50 mm and greater	1		Protected against vertically falling water drops
2		Protected against access to hazardous parts with a finger - protected against solid foreign objects of Ø 12,5 mm and greater	2		Protected against vertically falling water drops when enclosure tilted up to 15° (on either side of the vertical)
3		Protected against access to hazardous parts with a tool - protected againstsolid foreign objects of Ø 2,5 mm and greater	3		Protected against spraying water (at an angle up to 60° on either side of the vertical)
4		Protected against access to hazardous parts with a wire - protected against solid foreign objects of Ø 1,0 mm and greater	4		Protected against splashing water from any direction
5		Protected against access to hazardous parts with a wire dust-protected (no harmful dust deposit)	5		Protected against water jets from any direction
6		Protected against access to hazardous parts with a wire dust-tight (total protection against dust)	6		Protected against powerful water jets from any direction (similar to sea waves)
			7		Protected against the effects of temporary immersion in water at a maximum depth of 1 metre for 30 min
			8		Protected against the effects of continuous immersion in water at depth and/or duration upon agreement, more severe than for numeral 7
			9		Protected against high pressure and temperature water jets from any direction

RATING EXAMPLE

IP 6 5

Description according to IEC 60529

CHANGEOVER FROM PG THREADS TO METRIC

After 31st December 1999, the German safety standard DIN VDE 0619 (1987-09) and the standards it refers to - DIN 46319 for dimensions with metric threads and DIN 46320 (T1-T4), DIN 46255 and DIN 46259 for dimensions with Pg threads (Pg = Panzerrohr-Gewinde: literally “threads for armoured pipes”) - were withdrawn and European standard EN 50262 “Metric cable glands for electrical installations” has been in force since 1st January 2000.

This standard defines the new sizes with metric threads for cable glands according to EN 60423 and establishes the safety prescriptions.

Conversely, it does not specify the dimensions, such as the size of the tightening wrench, the diagonal dimension, or the dimensions of the tightness seals, as was the case in the withdrawn DIN for Pg cable glands.

The standard came definitively into force on 1st April 2001, when the contrasting national standards were withdrawn.

It is valid in all member countries of CENELEC (European Electrical Standardisation Committee) and its publication has led to a broadening of the supply of enclosures for multi-pole connectors for industrial use, to include new enclosure versions with cable entry suitable for metric cable glands.

NOTE – In 2016 the new EN 62444:2013 standard “Cable glands for electrical installations” replaced the former to cover only cable gland with metric thread whose range is now M6 through M110 (previously up to M75).

Cable gland producers have introduced the new metric series to add to the Pg size series, to gradually replace the latter type. The transitional period indicated in the new standard should have ended on 1st March 2001, after which date the use of cable entry devices with Pg thread and, as a result, enclosures with Pg thread, should have ended in new installations. Nevertheless, both the cable entry devices and the relevant enclosures with Pg thread, may continue to be used as spare parts. For the mandatory **CE** marking of these items, observance of the safety conditions specified by the Low Voltage Directive is sufficient, however adherence to the safety requirements of EN 62444 provides presumption of conformity.

To distinguish hoods and surface-mounting housings with metric entries from the relevant Pg versions (identified with a C pre-code), the ILME metric types are identified with an M pre-code. The transposition table below indicates the correspondence rule adopted in most cases by ILME for creating the new metric versions.

Pg → metric transposition table

Pg	Metric
Pg 11	M20
Pg 13.5	M20
Pg 16	M20
Pg 21	M25
Pg 29	M32
Pg 36	M40
Pg 42	M50

Cable diameter for use with ILME cable glands

∅ in mm	Metric thread				
Series	**20**	**25**	**32**	**40**	**50**
AS M..P	6 - 12,5	10 - 18	14 - 24	15 - 24	23 - 30
AS M..E	8 - 12,5	13,5 - 18	17 - 24	—	—
AG M..T	6 - 8 -10	11 - 14 - 17	19 - 21 -24	26 - 29 - 32	35 - 38 - 41
AG M..I	5 - 12,5	9 - 18	14 - 25	18 - 32	24 - 38,5
AG M..R	6 - 8 -10	11 - 14 - 17	19 - 21 - 24	—	—

For more information, please refer to the technical catalogue on www.ilme.com